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forward confidently to the day when they will be found in general use in all parts of the country. The idea that their feet would break down in travelling over rocky ground is an exploded absurdity. In all the explorations, over the roughest possible volcanic rock, they have been with us, patiently packing water, of which they never drank a drop, and corn, of which they never tasted a grain. On the expedition, from which I returned yesterday, they were four days without water, and apparently without feeling the want of it. * * * * * * *

(Signed) E. F. Beale."

On one occasion, shortly after landing the first importation, and when carrying them up from the Coast of San Antonio, the Camels broke suddenly from the road and rushed furiously towards one spot a little distance from it. Fearful that something had gone amiss, I was hastening towards them with anxiety, when I was met by one of the Turks, holding out to me a plant, and with a face beaming with pleasure. Through the American interpreter, he informed me that it was a plant of which the Camel was particularly fond, and that they had simultaneously smelt or seen it, and rushed for it. Hence their unusual vehemence. This, as you may suppose, came cheerfully home to me. For if the land bore Camels' food, why not the Camels too? The plant was apparently of the same class as *purslane*, but though I showed some of it to various persons in Texas, I could hear nothing of its name or quality.

I have now, gentlemen, endeavored to entertain you so far with these few desultory remarks, and hope I have succeeded in enlisting your interest. I have already occupied too much of your time, and will therefore close by referring to the official Report of the Secretary, published by the Senate, for any further information in detail that you may require.

Major Wayne further, in reply to a question, stated that the cost of the Camels landed in America, including all expenses, averaged about $105; and that the Camel bore the sea voyage better than any animals he had seen carried at sea. That on this point, they were all agreeably relieved. As soon as the vessel became uneasy, the Camels would lie down of their own accord, and so remain until the gale subsided; and that it was only necessary to secure them from chafing. That from some experience and observation of the transportation of horses and mules during the war with Mexico, he unhesitatingly said that he would rather carry 100 Camels at sea, than ten horses or mules. That one of the Camels presented to him by the Bey of Tunis, was on board nine months without leaving the ship, and that he continued in good health, and was now one of the finest of our Camels.

Dr. Leidy observed, in connection with the interesting remarks of Major Wayne, on the introduction of the Camel into North America, that he had been led by his palæontological researches to believe the experiment would prove a successful one, and he had so stated his impressions in conversation with members of the Academy. The grounds of his opinion were founded upon the following facts and inferences. The Horse existed during the pliocene period in America, in association with the Elephant, Mastodon, Ox, Deer, Bear, Peccary, Megalonyx, Lion, Capybara, Camel, &c. This fauna most probably indicates the temperature of the American continent, as then formed, to be what it is now, or nearly so. Though most of the genera mentioned became extinct in North America, the others abundantly exist, and the subsequent introduction of the Horse has been exceedingly fruitful in its results. As remains of the Camel (*Camelops Kansanus*) have been discovered in Kansas Territory, and a congener, the Lama, still exists in South America, the reasons are favorable to the introduction of the recent Camel in this country.

December 29th, 1857.

Vice-President Bridges in the Chair.

The Committees to whom were referred the following papers, reported in favor of publication, viz:

"Notes on North American species of Archibuteo and Lanius, and Description of a new species of Toucan of the genus Selenidera, by John Cassin."

"Description of several new North American Reptiles, by E. Hallowell, M. D."

"Descriptions of Exotic Genera and Species of the Family Unionidæ, by Isaac Lea." (For the Journal.)

"Prodromus descriptionis animalium, &c., by Wm. Stimpson."

"Observations on a group of Fossil shells found in Tippah County, Miss., with descriptions of fifty-five new species, by T. A. Conrad." (For the Journal.)

Notes on the North American species of Archibuteo and Lanius, and description of a new species of Toucan, of the genus Selenidera, Gould.

BY JOHN CASSIN.

Genus ARCHIBUTEO, Brehm. Isis, 1828, p. 1269.

Of this genus there are three North American species, all of which have been misunderstood and confounded with each other in a greater or less degree by authors. Of these, the most common and best known species, *Archibuteo lagopus*, is one of the few birds of this continent which appears to be absolutely identical with the species of Europe long known by this name, the adult of which has been mistaken by American naturalists, while of the European bird the adult has apparently been unknown to British and French ornithologists, though figured and described by the Germans and others of northern Europe.

1. ARCHIBUTEO LAGOPUS, (Gmelin.)

Falco lagopus, Gm. Syst. Nat. i. p. 260, (1788.)

Naumann, Vog. Deuts. i. pl. 34, (adult and young;) Reichenbach, Deuchland's Fauna, Birds, pl. xiii. fig. 51, (adult;) Korner, Skandinaviska Foglar, pl. v. fig. 15, (adult;) Selby, Ill. Brit. Orn. pl. vii. (young;) Gould, B. of Eur. i. pl. 15, (young;) Wilson, Am. Orn. iv. pl. 33, (young;) Aud. B. of Am. pl. 422, fig. 2, (adult?)

Tarsus densely feathered in front to the toes, naked behind; wings long, tail rather short.

Adult. Upper parts of body pale cinereous, with partially concealed transverse bands of white and dark brown; rump dark umber brown; head yellowish white with longitudinal stripes of brown frequently tinged with pale reddish; quills dark umber brown, edged externally with ashy, and with a large space at the base of their inner webs, white, with a silky lustre. Under parts white; throat with longitudinal narrow stripes of dark brown; breast with large spots and concealed stripes of reddish brown; abdomen with numerous narrow bands of brownish black, most conspicuous on the flanks and frequently with a tinge of ashy; tibiæ and tarsi barred transversely with white and dark brown, and frequently with a tinge of reddish; under tail coverts white. Upper tail coverts white at base and tipped with brownish black; tail white at base, with a wide subterminal band of black, and about two other bands of black alternating with others of light cinereous, tip ashy white, cere and toes yellow.

Young. Upper parts light umber brown, many feathers edged with yellowish white and pale reddish, which colors predominate on the head and neck in some specimens. Under parts yellowish white, with a wide transverse band of brownish black on the abdomen, and a few longitudinal lines and spots of the same color on the breast and neck. Quills ashy brown, with a large basal portion of their inner webs white; tail at its base white, with a wide subterminal band of light umber brown; tip white; tibiæ and tarsi pale reddish yellow, with longitudinal stripes and spots of dark brown.

Total length, female 21 to 23 inches, wing 16 to 17, tail 9 inches; male smaller.

Hab. All of temperate North America. Europe. Spec. in Mus. Acad. Philada.

We regard the plumage first described above as undoubtedly that of the adult of this species, though it has never been given as such by any American author. It corresponds precisely with European specimens in the Museum of this Academy, well understood by the German ornithologists to be the adult of *A. lagopus*, and figured as such in their works, of which some are cited above. In both adult and young plumage there are no characters whatever, so far as we can see, by which American and European specimens can be distinguished from each other.

Our attention was first directed to the European species, and to the fact of the adult being known to the German ornithologists, by Mr. Alfred Newton, F. L. S. of Magdalene College, Cambridge, to whom we beg leave to acknowledge our indebtedness for much valuable information derived during his late visit to the United States.

The other North American species of this genus are:

2. ARCHIBUTEO SANCTIJOHANNIS, (Gmelin.)
Falco sanctijohannis, Gm. Syst. Nat. i. p. 273, (1788.)
Falco spadiceus, Gm. Syst. Nat. i. p. 273?
Falco niger, Wilson, Am. Orn. vi. p. 82, (1812.)
Wilson's Am. Orn. vi. pl. 53, fig. 1, 2; Aud. B. of Am. pl. 422, fig. 1, pl. 166, (young?)

In young plumage this bird considerably resembles the preceding, but is quite distinct, and generally not difficult to be distinguished. It is larger and has the under parts much more spotted in the young, while of course the clear black of the adult of the present bird is totally unlike any known plumage of the preceding. In the adult of this species, the tail is of the same black as the general plumage, with one well defined band of white. This species has not yet been observed in Western North America, though rather abundant in the Eastern and North Eastern States.

3. ARCHIBUTEO FERRUGINEUS, (Lichtenstein.)
Buteo ferrugineus, Licht. Trans. Acad. Berlin, 1838, p. 428.
Archibuteo regalis, G. R. Gray, Gen. Birds i. pl. 6.
Buteo californicus, Hutchins, California Magazine, March 1857.
Gray, Gen. of Birds, i. pl. 6; Cassin, B. of Cal. and Texas, 1 pl. 26.

This bird is larger than either of the preceding and quite different in every known stage of plumage. It is apparently exclusively western, and like the other species of this genus the adult and young are quite unlike each other in colors. Both are described and figured in our work cited above.

Genus LANIUS, Linn. Syst. Nat. i. p. 134, (1766.)

The species of this genus inhabiting the United States, though not difficult to be distinguished from each other, have been singularly confused by authors. No less than five distinct species have been mistaken for, or rather condensed into two. The North American species are as follows:

1. LANIUS BOREALIS, Vieillot.
Lanius borealis, Vieill. Ois. d'Am. Sept. 1, p. 80, (1807.)
Sw. and Rich. Faun. Bor. Am. Birds, pl. 33; Vieill. Ois. d'Am. Sept. pl. 50.

Larger than *L. septentrionalis*, and is the largest known species of North America. It is darker colored than that species, and is well described and figured by Swainson, as above cited, who mistakes it, however, for the bird described and figured by Wilson under the name *Lanius excubitor*, which is the species immediately succeeding.

Specimens of this bird are in the fine collection made in Washington Territory by George Suckley, M. D., a highly talented young naturalist, late of the United States Army. It appears to be a northern and Western species.

Total length (of skin) about 10 inches, (11 inches according to Swainson, as above.)

2. Lanius septentrionalis, Gmelin.

Lanius septentrionalis, Gm. Syst. Nat. i. p. 306, (1788.)

Wilson's Am. Orn. i. pl. 5, fig. 1; Aud. B. of Am. pl. 192, oct. ed. iv. pl. 236.

Described and figured very accurately by both Wilson and Audubon, and well known as a bird of the Middle and Northern States. Total length (of skin) about 9 inches (10 inches, according to Wilson.) Mistaken by Audubon for the preceding, and this species is meant by that author in B. of Am. octavo edition, iv. p. 130, and in Synopsis of B. of N. A. p. 157, under the name of *Lanius borealis.* Wilson, in Am. Orn. i. p. 74, gives this species as "Lanius excubitor?" doubting its identity with the European species of that name. Audubon, in Orn. Biog. ii. p. 534, does not doubt, but gives it as identical, and says, "On comparing this bird with *Lanius excubitor* of Europe, I cannot perceive differences that could induce me for a moment to conceive them distinct." This author afterwards did perceive and states very differently in Synopsis, p. 158, where differences between this bird and *L. excubitor* are pointed out, and also in B. of Am. oct. ed. iv. p. 133. This change in perception is, however, very probably due to Mr. Macgillivray, who claims the authorship of Audubon's Synopsis (in Manual of British Ornithology, i. p. 245, London, 1840.) In allusion to *Hirundo purpurea*, Macgillivray says, "The following characters are those given *by me* in Mr. Audubon's Synopsis."

3. Lanius ludovicianus, Linnæus.

Lanius ludovicianus, Linn. Syst. Nat. i. p. 134, (1766.)

Lanius carolinensis, Wilson, Am. Orn. iii. p. 57.

Wilson's Am. Orn. iii. pl. 22, fig. 5, Aud. B. of Am. pl. 57, oct. ed. iv. 237.

In this species the entire upper parts, including rump and upper tail coverts, are uniform in color, which is bluish cinereous, darker on the head and back. It is smaller than either of the preceding, and appears to be essentially a bird of the Southern United States.

This species is easily determined from the descriptions and figures of either Wilson or Audubon. Total length (of skin) about 8¼ inches, (9 inches, according to Wilson.)

4. Lanius excubitorides, Swainson.

Lanius excubitorides, Swains. Faun. Bor. Am. Birds, p. 115, (1831.)

Swains. and Rich. Faun. Bor. Am. Birds, pl. 34.

About the size of the preceding, but lighter colored, with the rump and upper tail coverts white, and readily distinguished by the latter character. This species inhabits the Western and Northern States; being brought abundantly from California, and I have seen it also from Wisconsin. It is very handsomely figured by Swainson, as above cited, but I have never seen a specimen with the reddish or pink tinge on the under parts so clear as represented in his plate, though generally perceptible.

5. Lanius elegans, Swainson.

Lanius elegans, Swains. Faun. Bor. Am. Birds, p. 122, (1831.)

Lanius ardosiaceus, Vieillot, Ois. d'Am. Sept. 1, p. 81, (1807 ?)

Vieill. Ois. d'Am. Sept. 1, pl. 51 ?

Quite as large as *L. septentrionalis*, and with same strong form of bill, but in colors more resembling *L. ludovicianus.* The bill is entirely black, upper parts bluish cinereous, rather dark and quite uniform; wings and tail black; primaries with their basal half white, forming a very conspicuous spot on the wing; secondaries with the basal half of their inner webs white. Outer feathers of tail tipped with white, which color increases in extent to the outermost, which are almost entirely white. Under parts white tinged with ashy. Stripe through each eye, united by a narrow line in front, black; legs and toes strong, black.

Total length about 9½ inches (9¾ inches according to Swainson.)

This appears to be exclusively a Western and Northern species, the only specimens of which that we have ever seen are in the Museum of the Philadelphia Academy. One specimen was brought from California by Dr. Gambel.

This bird is perhaps rather larger than *L. septentrionalis*, and resembles it in robustness of organization, but in colors is more like *L. ludovicianus*. The white spot on the wing is much larger than in any other North American species of this group, and the inner webs of the secondaries are pure white, with more or less black at the ends of the feathers, and as though the white spot of the primaries was continued on the inner webs of the secondaries. All the tail feathers, except the two middle, are largely tipped with white. This bird is accurately described by Mr. Swainson as above cited.

This bird bears a greater resemblance to Vieillot's figure, referred to above, than any other species of North America.

SELENIDERA SPECTABILIS, nobis.

Belongs to the same group of species as *Selenidera piperivora*, (Linn.) Gould, Monograph of Rhamphastidæ, second edition, pl. 36, and resembling that and other species of this genus in general colors, but with the bill unusually large, and in form and colors somewhat similar to the bill of *Rhamphastos ambiguus*, Swainson, Gould's Monog. 2d ed., pl. 5, but much smaller and not so dark colored. Rather larger than *S. piperivora* or any other known species of this genus.

Colors of the upper mandible divided obliquely by a line running from below the nostril to the edge of the mandible, within about one third of its length from the tip. Upper portion and tip of upper mandible light greenish yellow, nearly pure yellow at the tip; lower portion and the entire under mandible dark fuscous green, lighter at the base. Bill at its base with an edging of black as in some species of *Rhamphastos*.

Auricular feathers light yellow, tufts on the sides deep orange yellow; tibiæ dark chestnut; under tail coverts scarlet. Head, neck, breast and abdomen glossy black. Upper parts of body, wings and tail olive green, darker and tinged with bluish ashy on the tail. Quills with their outer edges tinged with yellow, and their inner edges yellowish white, which is also the color of the under wing coverts.

No crescent on the back of the neck nor tips of chestnut on the tail in the present specimen.

Total length about 15 inches, wing 5½, tail 5, bill from the gape 4, from the nostril to tip of upper mandible 3½ inches.

Hab.—Cocuyos de Veragua, New Grenada. Discovered by Mr. Robert W. Mitchell, of Philadelphia. Spec. in Mus. Acad. Philada.

This Toucan presents some remarkable and rather anomalous characters. Though having the yellow auriculars and large spots of this color on the sides, and in fact the usual colors of the species of the group designated *Selenidera*, it has the bill longer and colored in a manner similar to *Rhamphastos ambiguus*. In form the bill of this species more strongly resembles that of *S. piperivora* than of any other bird of this group. There is no crescent of yellow on the back of the neck, nor are the feathers of the tail tipped with chestnut, as is usual in this group. All the known species of *Selenidera* are in the Museum of this Academy. This species is rather the largest of the genus.

A single specimen of this curious bird is in a very interesting collection presented to this Academy by Mr. Robert W. Mitchell, son of its distinguished member, Professor John K. Mitchell, M. D., of the Jefferson Medical College. This collection was made in Veragua, the most northern province of New Grenada.

Description of several new North American Reptiles.

BY EDWARD HALLOWELL, M. D.

Fam. SCINCIDÆ.

SAURIENS LEPIDOSAURES, D. & B.

Gen. PLESTIODON, D. & B.

PLESTIODON GUTTULATUS, nob.

Syn. Lam. *prosaurus guttulatus*, Hallowell. Sitgreaves' Report of Exploration of the river Zuni.

We have in the collection of the Academy three specimens of this species, the original one from New Mexico, and two from Kansas, all presented by Dr. William A. Hammond, U. S. A., to whom the Academy is greatly indebted for several valuable collections, more especially illustrating the Zoology of Kansas and Nebraska, and that of the region of the Rocky Mountains. The original specimen from New Mexico was in such a condition as to render it extremely difficult to determine its true characters ; the two from Kansas, however, are in fine preservation, and enables us to present a more accurate notice of it.

Sp. Char. Color black above, scales shining ; a series of white spots along the upper and lower jaw, also upon the external border of the supraocular plates ; 32 rows of scales. Total length 3 inches 4½ lines ; length of tail 1 inch 9 lines.

For detailed description see Sitgreaves' Report.

Habitat. Kansas and New Mexico.

PLESTIODON MULTIVIRGATUM, nob.

Sp. Char. A small more or less quadrangular plate immediately above the freno-nasal ; auricular openings circular, with several scales upon the anterior margin ; back with four well-defined black vittæ, (the two median ones broader,) occupying the half, or nearly so, of the adjacent rows of scales ; besides these, four other narrower black lines, each occupying the angle of a single row of scales ; the interspaces between the dark colored vittæ white, with a bluish tinge ; upper and lower lips white, abdomen bluish, tail white, with a yellow tinge above ; 24 rows of scales.

Dimensions. Length of head 4 lines ; greatest breadth 3½ ; of head and body to vent 2 inch. 3 lines ; of tail 2 inch. 8½ lines ; of arm 2 lines ; of forearm 2 ; of hand to extremity of longest finger 2½ ; of thigh 2 lines ; of leg 2 lines ; of foot to extremity of longest toe 3 lines.

Habitat. Posa Creek, 460 miles west of Fort Riley, Kansas.

One specimen presented by Dr. Hammond, U. S. A.

Gen. Remarks. In Plestiodon obsoletum there are 28 rows of scales.

URODELES, Dum.

URODELES TREMATODERES, D. & B.

Gen. AMBYSTOMA, Tschudi.

AMBYSTOMA MACULATUM, nob.

Sp. Char. Head large, body stout, tail ensiform, fingers and toes depressed, posterior nares of moderate size, teeth arched, in four patches, the two middle convex anteriorly, nearly in contact ; color brownish above ; tail maculated with black ; under parts yellow. Total length 7½ inches ; tail 3¾ inches.

Habitat. New Mexico. One specimen presented by Dr. McClellan.

AMBYSTOMA BICOLOR, nob.

Sp. Char. Head large ; feet very moderately depressed ; tail rather thick at base, rounded above, moderately compressed ; posterior nares small ; teeth in a straight transverse row; color blackish above, sides maculated with yellow tail yellow, beak marked and spotted. Total length 5½ inches; of tail 2½.

Habitat. New Jersey, near Beesley's Point. One specimen presented by Mr. Saml. Ashmead. Perhaps the young of Ambystoma tigrinum.

Gen. Remarks. A. proserpine of Prof. Baird is clouded with brown, and A. episcopus dark spotted.

AMBYSTOMA FUSCUM, nob.

Sp. Char. Head large, convex, eyes large, prominent, snout rounded, nostrils small, two and a half lines apart; internal nares rather large, teeth nearly transverse, in four distinct patches, extending across the palate, behind the internal nares; fingers depressed, the first and fourth of nearly equal length, the 4th longer than the 3d; 4th toe the longest; toes slightly webbed at base, tail ensiform, of nearly same length as head, neck and body; color uniform dark brown above, with extremely minute white points scattered over the sides and more sparsely upon the body and upon the sides of the tail; Indian yellow clouded with brown beneath.

Total length 5 inch. 2 lines; tail 2 inch. 7 lines.

Habitat. Indiana. One specimen presented by Prof. King, of Hanover College.

Gen. Remarks. This animal resembles somewhat the figure of Sal. Jeffersoniana, Holb., but in that, beside the transverse row of teeth, there are described two longitudinal series reaching to the posterior extremity of the palate. The toes in Dr. Holbrook's animal are all remarkably long, as they are described to be by Prof. Green in Sal. Jeffersoniana.—*Contributions of the Maclurean Lyceum to the Arts and Sciences*, p. 4.

Prodromus descriptionis animalium evertebratorum, quæ in Expeditione ad Oceanum Pacificum Septentrionalem, a Republica Federata missa, Cadwaladaro Ringgold et Johanne Rodgers Ducibus, observavit et descripsit

W. STIMPSON.

PARS III. *CRUSTACEA MAIOIDEA.*

MAIIDÆ.

1. LEPTOPUS LONGIPES, Latr. *Maris adulti* chelopoda valida, manu inflata digitis denticulatis ad basin hiantibus, dactylo versus basin tuberculo instructo

Hab.—In portu "Hong Kong"; in fundo limoso, org. 6 vulgatissimus.

2. DOCLEA GRACILIPES, nov. sp. Carapax tuberculis sex in linea mediana; tribus anterioribus minutis in regione gastrica; quarto in regione genitali et quinto cardiaco, sat validis et subspiniformibus; sexto majore in margine posteriore, spiniformi sed non acuto, decimam partem long. corporis adequante. Margo latero-anterior dentibus quatuor armata; dente anteriore v. subhepatica quam duabus medianis majore; posteriore longiore, (sextam partem carapacis lat. adequante) spiniformi, gracili, acuto. Superficies carapacis sat villosa; regiones branchiales et gastrica tuberculis parvulis utrinque 7-8 sub tomento celatis; declivitas postero-lateralis absque tuberculis. Rostrum paulo longius quam latum, ad dimidiam divisum. Regio pterygostomiana depressa, non canaliculata; dente parvulo inter dentem subhepaticum et hoc ad angulum anteriorem areæ buccalis. Pedes longi, graciles, minus villosi; secundi paris carapace plus duplo longiores; chelopoda parvula. Dimensiones carapacis, et rostro et spinis inclusis;—long. 0·95; lat. 1·02. *D. muricatæ* similis, minus vero spinosa, et pedibus longioribus.

Hab.—In Mari Sinensi prope oras insulæ "Hong Kong"; e fundo sabuloso prof. 20 org. lecta.

2. DOCLEA CANALIFERA, nov. sp. Corpus et membra, extremitatibus digitorum et dactylorum exceptis, supra subtusque dense et breviter tomentosa. Spinæ carapacis fere ut in *D. gracilipede;* spina laterali vero breviore, et spina posteriori gracili, acuta, decimam partem carapacis longitudinis adæquante. Regio pterygostomiana (v. afferens) valde depressa, canaliculata, margine exteriore acute elevata et longe ciliata. Pedes sat robusti; secundi paris bis longitudine carapacis breviores. Chelopoda carapace breviora et pedibus secundi paris graciliora. Long. carapacis, 1·65; lat. 1.50 poll.; rostro spinisque inclusis.

Hab.—In Mari Sinensi prope "Hong Kong"; inter Echinos e fundo limoso prof. 20 org.

4. CHIONŒCETES BERINGIANUS, St.; Proc. Bost. Soc. Nat. Hist. vi. 83; Feb. 1857. *Peloplastus Pallasii*, Gerstaecker; Archiv für Naturgeschichte, xxii. 105, t. I. f. 1. In freto Beringiano.

5. HYAS LATIFRONS, nov. sp. *H. coarctato* affinis, sed corpore crassiore, antice latiore, supra minus tuberculato, angulis obtusis. Rostrum brevius, minus acutum. Fissura superior orbitæ clausa.

Hab.—In Mari Beringiano, vulgaris.

MICROPISA, nov. gen. Carapax late ovatus, paulo convexus, vix spinosus, rostro bifido, spina præorbitali sat valida. Orbita supra unifissa, subtus aperta. Oculi retractiles, non latentes. Antennæ externæ articulo primo apice externo dentigero; parte mobili aperta. Manus *maris adulti* digitis hiantibus, ad apices denticulatos solum contiguis. *Pisæ Syrœque* affinis.

5. MICROPISA OVATA, nov. sp. Pubescens; carapace depressiusculo, vix longiore quam lato, dente hepatico quam dente præorbitali vix majore, et dente laterali parvulo, conico, in regione branchiali. Chelopoda *maris* robusti, mero dentato, manu subcompressa supra subcarinata. ♂ Carapacis long. 0.4; lat. 0.38 poll.

Hab.—Prope insulam "St. Jago" archipelagi "Cape de Verdes"; inter nulliporas e profunditate 20 org.

7. TIARINIA CORNIGERA, (Latreille.) Ad insulas "Amakirrima," "Loo Choo" et "Ousima" lecta.

8. TIARINIA DEPRESSA, nov. sp. Forma, rostro, orbitisque *T. cornigeræ* similis. Carapax depressus, postice canaliculo submarginali profundo; tuberculis paulo numerosis, latis et depressis. Regiones branchiales utrinque spina parva laterali, supra qua tuberculis 4—5 arcuatim dispositis; regio cardiaca tri-tuberculata; gastrica tuberculis parvulis decem. Margo posterior supra dentibus tribus, subtus quatuor parvulis ornata. Rostrum cornibus ad apices graciles paululum divergentibus et resimis. Pedes ambulatorii sat lati, compressi, supra lævi; marginibus non spinulosis, sparsim ciliatis; setis robustis, clavæformibus. ♀ Carapacis long. 0.77; lat. 0.52.

Hab.—Ad insulam "Ousima" Japoniæ Australis.

9. TIARINIA SPINIGERA, nov. sp. Carapax oblongus, sparsim hirsutus; regione gastrica convexa, prominentiis vix conspicuis, pæne levibus; regione cardiaca tri-tuberculata; regiones branchiales utrinque spinis acutis erectis tribus in serie transversa, exterioribus paulo majoribus et supra-marginalibus. Margo posterior *supra* spinis parvulis septem, mediana maxima; *infra* tuberculis spiniformibus minutis quinque vel septem. Superficies carapacis dimidia posteriore et lateribus tuberculis minutis acutis inter spinas obsessa. Rostrum gracile, longitudine mediocre; cornibus contiguis. Theca orbitalis saliens, compressa; dente præorbitali valde saliente acuto; postorbitali etiam sat prominente. Chelopoda mero et carpo supra paulo spinulosis. Pedes ambulatorii pæne læves. ♀ Carapacis long. 0.79; lat. 0.57 poll.

Hab.—Ad insulas "Ousima" et "Tanegasima."

10. MICIPPA HAANII. *Micippa thalia,* De Haan; Fauna Japonica, Crust. 98,

pl. xxiii. f. 2. (non *Cancert.*, Herbst.) In Mari Sinensi; in fundo conchoso prof. 10—20 org.

11. Micippa spinosa, nov. sp. Carapax depressus, supra inequalis, confertim tuberculatus et setosus. Spinæ dorsales paucæ, longæ, graciles, ad apicem obtusæ; tres in linea mediana, quarum duæ in regione gastrica, et una maxima cardiaca. Spina magna in regione branchiali, inter quam et dentem postorbitalem spinæ novem ad marginem lateralem sitæ. Margo posterior spinulosa. Rostrum ad extremitatem dilatatum; angulis late rotundatis, margine crenulata; dentibus duobus medianis divergentibus. Orbita supra bifissa; fissura interiore clausa, exteriore aperta. Regiones pterygostomianæ convexæ et tuberculatæ, non setosæ. Chelopoda levissima, pallide fusca; carpo manuque obsolete granulatis; apicibus digitorum nigris. Pedes ambulatorii compressi, dense pilosi; mero supra spina parvula terminali. Long. 0.75; lat. 0.59 poll.

Hab.—In portu Jacksoni Australiensi; e fundo limoso, prof. org. 6.

12. Micippa hirtipes, Dana; U. S. Exploring Exp., Crust. i. 90; pl. i. f. 3. Ad insulas "Loo Choo" et "Ousima" lecta.

13. Naxia dicantha, De Haan, Fauna Japonica, Crustacea, pl. 96; pl. xxiv. f. 1. In Mari Sinensi vulgaris; nec non in sinu "Kagosima" Japoniæ lecta.

14. Scyra compressipes, nov. sp. Regiones minus prominentes, gastrica ampla, lata, rotundata, pæne levis; hepaticæ expansæ, tuberculo subspiniformi gerentes; branchiales spina parva acuta horizontaliter porrecta, armatæ. Rostrum lamelliforme bifidum, vix latius quam longum, cornibus subtriangulatis. Pedes graciles compressi; chelopoda mero quadricarinato, carinis tuberculatis, superiore dente uno subterminali spiniformi acuto. Pedes ambulatorii supra infraque ad angulos sparsim hirsuti; setis magnis clavatis; articulis penultimis gracillimis levibus. ♀ Carapacis long. 0.65; lat., spinis inclusis, 0.51 poll.

Hab.—In sinu "Hakodadi" insulæ "Jesso" Japoniæ; in fundo arenoso et algoso prof. 6 org.

15. Dione affinis, De Haan, Fauna Japonica, Crust. p. 93; pl. xxii. f. 4. Ad insulam "Ousima"; specimen unicum jun. lecta.

16. Mithrax suborbicularis, nov. sp. Carapax rotundatus, vix longior quam latus; margo lateralis dentibus spiniformibus subdistantibus septem armata, dentibus duobus posticis parvulis. Regio gastrica ampla, valde convexa. Superficies tuberculis subequalibus et æquidistantibus ad 30 ornata; inter tubercula granulata. Rostrum latum brevissimum, cornibus duobus parvis triangularibus acutis. Antennæ externæ articulo primo latissimo, margine anteriore tridentata, dentibus longis spiniformibus, cornua rostri fere æquantibus. Margo orbitalis superior profunde bifissa et 4—5-dentata. Oculi crassi. Chelopoda *fœminæ* pæne lævi; pedes ambulatorii primi et secundi paris hirsuti et leviter spinulosi; tertio quartoque paris vix hirsuti. ♀ Carapacis long. 0.8; lat. 0.8 poll.

Hab.—Ad insulam "Selio" freti "Gaspar."

17. Camposcia retusa, Latr.; Milne Edwards, Hist. Nat. des Crust. 283, pl. xv. f. 15, 16. Ad insulam "Ousima."

18. Achæus Japonicus, De Haan, Fauna Jap. Crust. 99, pl. xxix. f. 3. In portu "Hong Kong"; mari Sinensi.

19. Achæus lacertosus, nov. sp. Carapax triangularis, regionibus sat prominentibus, superficie lævi, spinis carente, paulo pubescente. Regio hepatica dente obtuso laminiformi parvulo, horizontaliter porrecto. Rostrum æque longum ac latum, truncatum, extremitate bilobata. Antennæ externæ parte mobili filiformi, carapacis longitudinem superante. Oculorum pedunculus lævis. Chelopoda grandia, forma fere ut in *Myctiride*, mero crassissimo; manu incurvata, digitis compressis. Pedes ambulatorii valde graciles; primi paris carapace triplo longiores; tertii quartique paris dactylo falciformi. ♂ Carapacis long. 0.385; lat. 0.325 poll.

Hab.—In portu Jacksoni Australiensi; in fundo limoso prof. 6 org.

Achæopsis, nov. gen. Carapax ovato-triangularis, convexus, spinulosus; rostrum breve, bifidum; spina præocularis acuta; oculi longi, ad carapacis latus retractiles, orbitis carentes; spina parvula postoculari. Antennæ externæ apertæ, articulo basali angustissimo curvato. Fossæ antennulariæ amplæ. Hectognathopoda eleganter granulosa vel spinulosa; mero articulo quinto ad angulum externum gerente. Chelopoda sat longa. Pedes ambulatorii graciles. Dactyli pedum sex posticorum falciformes. Abdomen in fœminis sex-articulatum. *Eurypodio Achæoque* affinis.

20. Achæopsis spinulosus, nov. sp. Pubescentulus; spinæ carapacis parvulæ graciles, acutissimæ, pleræque laterales; tres majores in regione gastrica; quatuor in regionibus branchialibus. Chelopoda spinulosa; digitis contiguis. Pedes ambulatorii irregulariter spinulosi, et pilosi. ♀ Carapacis long. 0.36; lat. 0.28 poll.
Hab.—Ad Promontorium Bonæ Spei in sinu "Simon's Bay"; e prof. 10 org

21. Stenorynchus phalangium, Lam'k.; Edw.; Crust. i. 279. Ad insulam Madeiræ; fundo arenoso, 15 org.

22. Stenorynchus falcifer, nov. sp. Corpus sat altum, gracile, rotundatum minute pubescente. Carapax supra spinis duabus longis in linea mediana, una in regione gastrica, altera in regione cardiaca sita; spinis v. tuberculis acutis 4—5 parvulis quoque utrinque in lateribus. Rostrum longum, carapacis longitudinis quartam partem occupante, valde gracile, cornibus acicularibus omnino contiguis. Chelopoda *fœminæ* setosa et partim spinosa, mero ad apicem spina longa; carpo bispinoso; manu curvata, digitis compressis, intus denticulatis, dimidiam manus longitudinis pæne formantibus. Pedes ambulatorii graciles, mero apice spina acuta armata; dactylis pedum quatuor posticorum falciformibus. ♀ Carapacis long. 0.61; lat. 0.35; pedum ambulatoriorum primi paris long. 1.75 poll.
Hab.—Ad Promontorium Bonæ Spei, sinu "Simon's Bay"; inter algas e fundo arenoso prof. 12 org.

23. Leptopodia sagittaria, Leach; Zool. Misc. ii. pl. lxvii; Edw. l. c. i. 27 Ad insulam Madeiræ; e prof. 30 org.

24. Perinea tumida, Dana; U. S. Exploring Expedition, Crust. i. 114; pl. iv. f. 1. Ad insulam "Hawaii."

25. Pugettia incisa. *Menœthius incisus*, De Haan; Fauna Japonica, Crust. 98; pl. xxiv. f. 3. In sinu "Hakodadi" insulæ "Jesso"; fundo algoso-arenoso, 6 org.

26. Pugettia quadridens. *Menœthius quadridens*, De Haan; Fauna Japonica Crust. 97; pl. xxiv. f. 2. In portu "Simoda" Japoniæ et "Hong Kong" Sinensi sublittoralis inter fucos.

27. Menæthius subserratus, Adams and White; Voy. Samarang, Crust. p. 18; pl. iv. f. 1, 2. Dana; U. S. Exploring Exp. Crust.; i. 122; pl. iv. f. 7. In portu "Hong Kong"; et ad insulas "Amakirrima" prope "Loo Choo."

28. Menæthius dentatus, nov sp. *M. subserrato* affinis, sed dentibus lateralibus, tuberculisque magis prominentibus. Regio cardiaca valde prominens, prope tertiam partem latitudinis carapacis occupans. Dentes præorbitales elongati, longitudinaliter porrecti. ♀ Carapacis long. 0.84; lat. 0.56 poll.
Hab.—Ad insulas "Amakirrima."

29. Menæthius depressus, Dana; U. S. Exploring Expedition, Crust. i. 121. pl. iv. f. 6. Ad insulas "Loo Choo"; in sargassum, sublittoralis.

30. Acanthonyx dentatus, Milne Edwards; Hist. Nat. des Crust. i. 343. Ad Promontorium Bonæ Spei, sinu "Simon's Bay"; fundo arenoso, org. 12.

31. Epialtus productus, Randall; Dana, l. c. i. 123; pl. vi. f. 2. Prope "San Francisco," California.

PARTHENOPIDÆ.

32. EURYNOME LONGIMANA, nov. sp. Regiones sat distinctæ, non profunde separatæ. Carapax rugosus; tuberculis rotundatis depressis, latitudine variabilibus, sæpe confluentibus. Margo lateralis dente magno triangulari post orbitam; in regionibus branchialibus dentibus parvis quatuor. Margo posterior utrinque dente parvulo tuberculiformi. Regio gastrica spinis parvis duabus et postice tuberculis confluentibus; branchiales utrinque spina parva mediana; cardiaca sat prominens, oblonga, tuberculis confluentibus. Rostrum profunde bifidum, cornibus longis, acutis, paullo divergentibus. Fissura supra-orbitalis clausa. Chelopoda maris grandia, corpore vix duplo longiora; manu subgracili, supra quadrispinosa; digitis subdeflexis. Pedes ambulalorii debiles, supra bicarinati, carinis in mero spinosis. Carapacis maris long. 0.47; lat. 0.34 poll.
Hab.—Ad Promontorium Bonæ Spei; inter Gorgonias e prof. 10 org.

33. LAMBRUS RUGOSUS, nov. sp. Carapax rugosus, pone oculos vix constrictus; longitudine et latitudine fere æqualibus; superficie tota valde irregulari et tuberculata. Frons concava, lævis; regio gastrica parva, eminentiis tribus,—mediana posteriore, minuta, granuliformi,—et duabus lateralibus latis, granulatis. Regio branchialis elevata, tuberculis conicis ad quinque ornata, uno magno. Area postero-mediana subtriangularis, depressa, in media qua regio cardiaca granulata, paulo elevata. Margo lateralis decem-dentata; dente anteriore hepatico prominente; dentibus sequentibus parvis; dente posteriore magno, conico, elevato, utrinque ad basim denticulo instructo. Margo posterior tuberculis inconspicuis quatuor distantibus. Chelopoda longitudine mediocria, robusta, supra inequaliter dentata et tuberculata; subtus tuberculis depressis, levibus, æqualibus, subseriatis. Pedes ambulatorii læves, mero supra 2—3-spinuloso. Long. carapacis, 0.34; lat. 0.35 poll.
Hab.—Prope insulam "St. Jago" archipelagi "Cape de Verdes"; inter nulliporas ad prof. 20 org.

34. LAMBRUS LACINIATUS, De Haan; Fauna Japonica, Crust. p. 91., pl. xxii. f. 2, 3. In portu "Hong Kong"; vulgaris in fundo limoso prof. 5—20 org.

35. LAMBRUS TUBERCULOSUS, nov. sp. Carapax supra bene tuberculatus; tuberculis sub-æqualibus, confertis, depressis, granulis coronatis. Margo lateralis decem-dentata, dentibus denticulatis et granulatis, duobus posticis multo majoribus in margine postero-laterali sitis. Frons supra profunde excavata; rostro subtriangulari acuto. Chelopoda valida, marginibus spinis granulosis acute conicis (10-11 in manûs carinis) serratis; superficie intercarinali tuberculata, tuberculis granulatis, supra acutis et biseriatis, subtus minoribus obtusis 3—4-seriatis. Pedes ambulatorii debiles, supra spinis acutis obsessi. Carapacis long., 0.66; lat., 0.80 poll. *L. valido* et *laciniato* forma, longitudine chelopodorum, dentibus marginalibusque affinis; sed superficie magis tuberculata.
Hab.—Prope insulam "Hong Kong" Sinensem; in fundo conchoso-limoso, prof. 15 org.

36. CRYPTOPODIA CONTRACTA, nov. sp. Carapax parvus, paulo expansus, triangularis, angulis lateralibus truncatis; marginibus antero-lateralibus crenulatis, post orbitas sub-contractis et emarginatis; margine posteriore recta, obsolete crenulata. Dorsum valde convexum, area mediana et regionibus anterolateralibus depressis, regionibus branchialibus postice valde elevatis et granulatis. Frons supra concava, rostro obtuso. Chelopoda sat longa, subtus regulariter depresso-tuberculata; manu subprismatica, crista superiore sexdentata, dentibus contiguis, mediana majore, carina exteriore granulata. Pedes ambulatorii ischio meroque subtus bicarinatis, carinis spinigeris. Carapacis long. 0.38; lat. 0.55 poll.
Hab.—In mari Sinensi boreali, lat. bor. 23°; e fundo arenoso prof. 25 org.

37. CRYPTOPODIA FORNICATA, M. Edwards; Hist. Nat. des Crust. i. 362. In portu "Hong Kong"; in fundo conchoso prof. 10 org.

38. ÆTHRA SCRUPOSA, M. Edwards; Hist. Nat. des Crust. i. 371. Ad insulas freti Gaspar; sublittoralis.

39. CERATOCARCINUS ALBOLINEATUS. *Harrovia albolineata*, Adams et White; Voy. Samarang, Crust. p. 55. pl. xii. f. 5. Carapax hexagonus; margine frontali dimidiam partem latitudinis vix superante, paullo convexa, media emarginata. Dens prœorbitalis sinu e fronte discretus, et frontem non longitudinaliter superans. Margo antero-lateralis quadridentata, angulo orbitæ vix prominente incluso; dente posteriore magno, acuto. Margo postero-lateralis et posterior æquales, læves. Dorsum paullo convexum, tomentosum et versus marginem granulatum; regionibus vix distinctis; tuberculis duobus in regione gastrica, et uno in utraque regione branchiali prope dentem lateralem. Oculi retractiles. Chelopoda valida, carapace plus duplo longiores, granulata; mero supra prope basim spinoso; carpo uni-tuberculato; manu lævi. Pedes ambulatorii minute villosi. Long. carapacis, 0.35; lat. 0.44 poll.

Hab.—In portu "Hong Kong."

ONCINOPIDÆ.

40. ONCINOPUS SUBPELLUCIDUS, nov. sp. Corpus subpellucidum, ubique pubescente. *O. araneæ* valde affinis, diversus carapace post orbitas paullo expanso et subangulato; articulo penultimo pedum ambulatoriorum primi secundique paris graciliore et longe ciliato. A *O. Neptuno* differt articulis ultimis et penultimis pedum posticorum minoribus et gracilioribus. Long. carapacis, 0.48; lat. 0.36 poll.

Hab. In portu Jacksoni Australiensi; inter spongias e prof. 6 org.

The Recording Secretary read the following Annual Report:

REPORT OF THE RECORDING SECRETARY FOR 1857.

During the past year there have been elected forty-nine Members and two Correspondents.

Three Members have died, to wit: Dr. E. K. Kane, Mr. John A. Guex, and Mr. Thomas Biddle.

The deaths of the following Correspondents have been announced to the Academy:—Professor J. W. Bailey, of West Point; Prince Charles Lucien Bonaparte; Mr. Henry Pratten, of New Harmony, Ind.

The following Papers have been presented and ordered to be published in the Proceedings or Journal of the Academy.

By W. G. Binney, two, to wit: "Description of American Land Shells;" "Notes on American Land Shells, No. 2."

By John Cassin, three, to wit: "Catalogue of Birds collected at Cape Lopez, Western Africa, by Mr. P. B. Duchaillu in 1856, with notes and descriptions of new species;" "Catalogue of Birds, collected by P. B. Duchaillu, on the River Muni, in 1856, wtih descriptions of new species;" "Description of North American species of Archibutes and Lanius, and description of a new species of Toucan of the genus Selenidera."

By T. A. Conrad, six, to wit: "Description of three new genera, twenty-three species of middle Tertiary fossils from California, and one species from Texas;" "Descriptions of two new genera of Shells;" "Rectification of some of the generic names of American Tertiary Fossils;" "Description of a new species of Myacites;" "Description of a new genus of the family Dreissercidæ."

By Joseph Barnard Davis, "On the Crania of the ancient Britons, with remarks on the people themselves."

By Charles Girard, M. D., three, to wit: "Description of some new Reptiles collected by the United States Exploring Expedition, etc., parts 3d and 4th.'

"Notice upon new genera and new species of Marine and Fresh-water Fishes of Western North America."

By Edward Hallowell, M. D., five, to wit: "Note on the collection of Reptiles from Texas, recently presented to the Academy of Natural Sciences, by Dr. A. L. Heermann;" "Description of a new genus of colubriform Serpents from California;" "Notice of a Collection of Reptiles from the Gaboon country, Western Africa, made by Dr. Henry A. Ford;" "On Trigonophys rugiceps;" "On the caduciate Urodele Batrachians."

By F. V. Hayden, M. D., two, to wit: "Notes explanatory of a map and section illustrating the geological structure of the country bordering on the Missouri river, etc.;" "Geological notes on the Mauvaises Terres of White River."

By Theodore C. Hilgard, M. D., "Classification of the Vegetable Kingdom."

By C. R. Kennerly, "Description of a new species of Cypselus, etc."

By J. P. Kirtland, M. D., "On the Larva of Thyreus Abbottii."

By Isaac Lea, L.L. D., seven, to wit: "Descriptions of thirteen new species of Uniones from Georgia;" "Descriptions of twelve new species of Naïades from North Carolina;" "Descriptions of six new species of Uniones from Alabama;" "Descriptions of eight new species of Naïades from various parts of the United States;" "Descriptions of three new exotic species of Naïades;" "Descriptions of six new species of fresh water and land shells;" "Descriptions of twenty-seven new species of Uniones from Georgia."

By Major John LeConte, two, to wit: "On three new species of Vespertilionidæ;" "Observations on the Wild Turkey."

By John L. LeConte, M. D., four, to wit: "Catalogue of the species of Bembidium found in the United States and contiguous northern regions;" "Index to the Buprestidæ of the United States, described in the work of Laporte and Gory, with notes;" "Descriptions of several new Mammals from Western Africa;" "Synopsis of the species of Clivina and allied genera, inhabiting the United States"

By Joseph Leidy, M. D., six, to wit: "Remarks on certain extinct species of Fishes;" "Notice of remains of extinct Turtles from New Jersey, etc.;" "Notices of extinct Vertebrata, discovered by Dr. F. V. Hayden, etc.;" "List of extinct Vertebrata, the remains of which have been discovered in the region of the Missouri, with remarks on their geological age;" "Notices of extinct Fishes;" "Rectification of the references of the extinct Mammalian Genera of Nebraska."

By F. B. Meek and F. V. Hayden, M. D., "Explorations under the War Department. Descriptions of new Cretaceous and Tertiary Fossils collected by Dr. F. V. Hayden in Nebraska, etc."

By William Stimpson, two, to wit: "Prodromus descriptionis animalium evertebratorum, quæ in Expeditione ad Oceanum Pacificum Septentrionalem, a Republica Federata missa, Cadwaladaro Ringgold et Johanne Rodgers Ducibus, observavit et descripsit W. Stimpson, (two papers.)

By William J. Taylor, four, to wit: "Aluminium, the progress in its manipulation;" "Investigation of the rock Guano from the islands of the Carribean Sea;" "Examination of a Nickel Meteorite from Okkitebaha county, Miss.;" "Examination of Enargite from New Granada."

By Philip R. Uhler, "Contributions to the Neuropterology of the United States."

All of which is respectfully submitted by

B. Howard Rand, M. D.
Recording Secretary.

Nov. 30*th*, 1857.

The Librarian read the following Annual Report:

LIBRARIAN'S REPORT FOR 1857.

During the present year, ending December 31st, 1857, 382 volumes and 1053 periodicals and pamphlets have been added to the Library of the Academy. The various subjects upon which these treat, and the number belonging to each subject, are shown in the following table :

SUBJECTS.	*No.*	SUBJECTS.	*No.*
General Natural History and Mammalogy,	34	Ethnology,	6
Ornithology,	63	Physics and Chemistry,	14
Entomology,	51	Transactions, Journals, Proceedings, Reports, &c., of Societies,	726
Conchology,	211	Voyages and Travels,	18
Botany,	44	Medicine,	11
Geology, Palæontology and Geography,	146	Biography,	6
Anatomy, Physiology, &c.,	72	Miscellaneous,	16
Mineralogy,	11		
Herpetology and Ichthyology,	6	Total,	1435

Of the above works, 73 have been contributed by authors, 71 by editors, 53 by members, correspondents and others, 208 by societies and corporations, 45 by Mr. Edward Wilson, and 985 by Dr. T. B. Wilson; making a total of 1435 additions to the Library in 1857.

Among the many valuable additions made during this year, the following may be mentioned : Memoirs and Transactions of the Royal Academy of Sciences of Berlin, from 1710 to 1850, 85 volumes, from Dr. Wilson ; Donovan's Natural History of British Insects, 16 volumes, from Mr. Ord ; sixth volume of the United States Naval Astronomical Expedition to the Southern Hemisphere, from Lieut. Gilliss ; twelfth volume of the United States Exploring Expedition, from Dr. A. A. Gould ; the terrestrial air-breathing Mollusks of the United States and adjacent territories of North America, from the executors of Dr. Binney ; the Zoologist, 50 numbers ; Morris' History of British Birds, 48 numbers ; the Naturalist, 48 numbers ; Adams' Genera of Recent Mollusca, 26 numbers ; Deshayes' Description des Animaux sans Vertebres decouvertes dans le bassin de Paris ; H. Von Meyer's Fauna der Vorwelt ; Crania Britannica ; Museum Botanicum Lugduno-Batavum, &c. &c., from Dr. Wilson, and also a number of rare and valuable pamphlets upon Anatomy, Physiology and Zoology from Mr. E. Wilson.

In 1836 the Library contained about 7000 volumes ; in 1850, it had increased, as was ascertained by actual enumeration, to 12,057. During the fourteen years, from 1836 to 1850, therefore, the annual rate of increase of the Library was about 430 volumes. In 1851, 2,262 additions were made to the Library ; in 1852, 2,886 ; in 1853, 1,011 ; in 1854, 729 ; in 1855, 857 ; in 1856, 1,449 ; and in 1857, 1,435 ; making a total increase during the past seven years of 10,629. From this statement it will be seen that the average annual increase for this period is a little more than 1500 volumes, a rate of increase 3½ times greater than that for the preceding fourteen years. In his report, laid before the Academy in 1850, my friend and predecessor, Dr. Wm. S. Zantzinger, presented a classified table of the whole number of volumes in the Library. Taking this estimate as a basis, I have constructed the following table, in which is shown not only the whole number of volumes in the Library, but also the number distributed to each of the leading divisions.

Natural Sciences,	5579
Anatomy and Physiology,	633
Voyages and Travels,	984
History and Geography,	590
Transactions, Journals, Proceedings, Reports, &c., of Societies,	3723
Dictionaries of Arts and Sciences,	586
Maps and Charts,	49
Chemistry and Physics,	462
Historical Documents of all descriptions,	1857
Antiquities and Fine Arts,	430
Miscellaneous,	1660
Total,	16,553 Vols.

In the Report above alluded to, Dr. Zantzinger estimated that the works in parts or numbers not yet completed, and pamphlets, when bound, would make about 500 volumes. Since that time the increase in periodicals and pamphlets has been over 6000. If now we regard these, when bound, as equivalent to 500 volumes, and accordingly add them to the above sum, we shall obtain for the whole Library a grand total of more than 17,000 volumes.

During the year more than 400 volumes have been bound in a substantial manner, and without cost to the Academy, the expenses having been defrayed by Dr. T. B. Wilson. Many other volumes are still in the hands of the binder.

Owing to the increase in the number of Journals, Transactions, &c., of learned societies received in exchange for the publications of the Academy, Dr. T. B. Wilson, with his accustomed liberality, has caused eight additional cases to be made and placed in the western room of the Library for the better accommodation and arrangement of the books. These cases extend in a row, like a partition, nearly across the room from north to south, dividing it into two smaller, oblong apartments, which communicate by a narrow passage, and are lighted by two windows, one at each end. In consequence of these alterations, and the increased attendance at the meetings of the Academy, the latter have, since November last, been held in the eastern room, the largest and most commodious of the three rooms containing the Library. The two northern windows of this apartment have been walled up with brick from the floor to the ceiling, so that the dangers from fire in that direction are considerably diminished. Upon the floor, and in the recesses formerly occupied by the windows, two new book-cases have been erected. Gas has also been introduced into this room. The whole cost of these alterations has been borne by Dr. Wilson.

While congratulating the members of the Academy and the lovers of science in general upon the rapid influx of valuable books and periodicals into the Library, and the increasing facilities thus offered for scientific research, I deem it not inappropriate to take this opportunity of earnestly reminding the members of the importance of using every effort still further to enlarge the bounds of the Library, protect it from injury, and increase the sphere of its utility.

J. Aitken Meigs, *Librarian.*

The Treasurer's Report was read and referred to the Auditors.

The Curators reported as follows:

REPORT OF THE CURATORS FOR 1857.

The Curators, in presenting their annual report, take pleasure in stating that the Museum of the Academy continues in its usual excellent condition of preservation.

The arrangement of the Museum has made considerable progress during the year now approaching its close, though much remains to be done before it shall be put in complete order.

The collections, at present nearly or completely arranged and labelled, are those of Mammals, Reptiles, Insects, Crustaceans, of Botany, of Vertebrate Fossils, of Fossil Plants, of Minerals, of Birds' Eggs, and of Human Skulls.

The collections in course of arrangement, and of which several have made considerable progress, are those of Birds, Fishes, Mollusks, and of Comparative Anatomy.

The collections of Invertebrate Fossils, Echinoderms, Zoophytes, and Sponges, remain untouched. The first of these collections indicated is a very large and important one, and strongly demands the attention of some of our members to arrange it.

During the year, Mr. W. J. Binney has nearly completed the arrangement of the Conchological cabinet. Dr. Wilson continues to arrange the collection of Birds, and Drs. Bridges and Morris have made considerable progress in the arrangement of the collection of Fishes. The Mammalogical cabinet has been arranged by Col. McCall and Dr. Camac; and Dr. Wilson and Mr. Schafhirt, have been engaged in arranging the Insects.

In relation to the Herbarium, Mr. E. Durand has furnished the following statement:

To the Curators,—

Dear Sirs,—The *Herbarium Boreali-Americanum,* upon which I have been engaged for these four years, is now nearly completed. As far as it goes, it fills up more than sixty large port-folios.

In its formation, I have followed the arrangements of DeCandolle, and have just finished the order *Gramineæ,* which is the last of the Phænogamous plants. The number of *described* species therein contained, amounts to seven thousand two hundred and forty-two, of which 5994 are dicotyledonous, and 1248 monocotyledonous species. It contains, moreover, other plants, either new or as yet unpublished, which may, in all probability, raise the whole number of phænogamous species of this particular collection to eight thousand. When the cryptogams have been added to these, it will form a mass of not less than ten thousand North American plants, constituting one of the most complete Herbaria extant.

This special North American herbarium had become an essential desideratum in an Institution like ours, particularly devoted to the study of the natural wealth of the country. In times past, it was inconvenient and difficult to the student of the botany of North America, to search in the general herbarium, among a mass of forty-six thousand species from all parts of the world, for the particular native plants which he was desirous to examine. Now this work is rendered easy, and he may at once, and without trouble or interruption, examine a whole suit of American species of the same genus or of the same order.

The *Herbarium Boreali-Americanum,* as far as it reaches, has been made up from the numerous packages of specimens transmitted to the Academy of Natural Sciences from all parts of the country, and piled up, neglected, on the shelves of the Botanical room. It is highly indebted to the valuable private collections of Major LeConte, and of the late Messrs. Conrad and James Reed, and to partial invoices of Drs. Torrey, Gray, Englemann, Short and others. From my own herbarium I have selected for it more than fifteen hundred rare and frequently unique specimens of my collection, all from Texas, New Mexico. the North-Western Territories, Oregon and California. The whole number of species contained in this new botanical treasure is at least double that which is to be found scattered in our general herbarium.

I do not vouch for a complete accuracy of names; but I have performed my task to the best of my ability. If faulty in some rare instances, it remains open to correction by those who will follow me. If it posseses other defects, one is that, in many cases, it is overstocked with duplicates; but this I intend to obviate hereafter, by abstracting the superfluity, with a view to enrich the general herbarium, or to store up duplicates for exchange.

The great merit of this valuable collection of North American plants is that it possesses a large number of authentic specimens—almost all the plants of Mr. Nuttall, and many others from Messrs. Elliott, Baldwin, Pursh, Torrey, Asa Gray, Curtis, &c.

With regard, your most obedient servant,

Philadelphia, December 17th, 1857. E. Durand.

The donations to the different departments of the Museum for 1857 are as follows:—

Mammals.—Of these, 31 specimens of 22 species have been added to the collection; the principal donors being Dr. T. B. Wilson, Dr. W. A. Hammond, Mr. L. De Vesey, and Dr. H. A. Ford.

Birds.—Of these, 46 specimens of about 25 species have been presented, principally by Dr. Hammond, Mr. De Vesey and Mr. Slack. Several small collections, in which the number of species is not designated, have been presented by R. W. Mitchell, Capt. J. P. McCown, U. S. N., and the Smithsonian Institute.

Reptiles.—In the department of Herpetology, which is so zealously cultivated by Dr. E. Hallowell, we have received rich additions. Dr. W. A. Hammond, U. S. A., presented 480 specimens of 40 species, from Kansas Territory. 184 specimens of 30 species were presented by Drs. Wilson, Leidy, Hallowell, and Mr. Conrad. 150 specimens of 30 genera from Ceylon and the Philipines, were obtained in exchange. R. W. Mitchell presented 24 specimens of 10 species from New Granada; Mr. C. Hering, 29 specimens of 10 species from Surinam; Dr. H. A.

Ford, 31 specimens of 13 species from Africa; Dr. A. W. King, 71 specimens of 11 species; and Major LeConte 38 specimens of 11 species. Besides the foregoing, 220 specimens of 80 species were presented, principally by Messrs. T. Swift, Boulton, Wood, Canfield, Trout, Lesquereux, and Krider, and Drs. Ruschenberger, LeConte, Jos. Wilson and Uhler.

Fishes.—Of these, Dr. Hammond presented 120 specimens, yet undetermined, from Kansas Territory. Drs. Ruschenberger and H. C. Caldwell presented 47 specimens of 40 species. 21 other specimens of 14 species were presented principally by Messrs. Slack and S. Powel, and Drs. Davidson, Kittoe and T. Dunn.

Mollusks.—Dr. H. A. Ford presented 130 specimens of 12 species from Western Africa; and Dr. Woodhouse presented 126 specimens of 23 species of Naïades from the Arkansas and its tributaries. 24 specimens of 15 species were presented principally by Dr. Ruschenberger; and a small collection was presented by Dr. Hammond.

Insects.—Of the different orders of insects the following have been presented: Coleoptera, 635 specimens of 280 species; hemiptera, 189 specimens of 90 species; orthoptera, 208 specimens of 100 species; hymenoptera, 114 specimens of 60 species; diptera, 102 specimens of 50 species; neuroptera, 19 specimens of 15 species; arachnida, 18 specimens of 7 species; and myriapoda, 5 specimens of 4 species. The principal donors are Drs. Leidy, Wilson, Hammond, LeConte, and Ruschenberger, and Messrs. W. L. Cassin and W. B. Chandler.

Crustaceans.—Mr. W. Stimpson presented 34 specimens of 15 species from the west coast of America. 65 specimens of 30 species were presented principally by Drs. Ruschenberger and Hammond, and Mr. Pease.

Annelides, Echinoderms and Zoophytes.—Dr. Ruschenberger presented 29 specimens of 14 species of echinoderms and zoophytes. Dr. Hammond presented 48 Gordii, and Mr. Ashmead 1 Nereis.

Comparative Anatomy.—Of human skulls, Dr. B. Vreeland presented 9, Dr. E. H. Abadie 6, Dr. Ruschenberger 3, and Dr. T. J. Turner 27; besides which 3 others were presented. Of skulls of other animals 22 were presented, principally by Drs. Wilson, Woodhouse, and McClellan. A fine example of the skeleton of the Camel from Tunis was presented by W. S. Vaux. Besides the foregoing, there were 4 other skeletons, and 8 miscellaneous specimens presented.

Botany.—Prof. John Torrey presented 427 specimens of western American plants; Mr. Durand presented 18 species; Dr. Jos. Wilson U. S. N. presented a collection of plants from Western Africa; and Mr. S. Ashmead presented 9 species of marine algæ. Of fungi, 997 species, prepared by Ezra Michener, were presented by this gentleman and the Rev. M. A. Curtis.

Palæontology.—Of vertebrate remains 68 specimens have been presented, principally by Drs. LeConte, Leidy, and Minturn, and Messrs. W. McClane and C. Wheatley. Of invertebrate fossils, Mr. W. Cleburne presented 250 specimens from the green sand of New Jersey, and a collection from the silurian rocks of Ohio. Dr. Leidy presented 62 triassic, eocene, pliocene and post-pliocene fossils; Prof. Holmes, 26 specimens pliocene and post-pliocene fossils; Dr. Wilson, 18 species tertiary shells from California; and Dr. Woodhouse 15 specimens of fossils. Of other specimens, 13 were presented, besides a small collection from Chili, by W. Blake. Of coal plants, Dr. R. Bennett presented 42 specimens; besides which 12 other fossil plants were presented.

Mineralogy.—Of minerals, 52 specimens were presented; the principal donors being Col. G. M. Totten, Dr. Spilman, Mr. Taylor, Dr. Woodhouse, and T. W. Yardley.

Respectfully submitted by
Joseph Leidy,
Chairman of the Curators.

Dr. Rand announced the death of W. Frederick Rogers, late a member of the Academy, at Paris, on the 9th of December.

The following officers were then elected for the ensuing year.

President,

George Ord.

Vice Presidents,

Robert Bridges, Isaac Lea.

Corresponding Secretary,

John L. LeConte.

Recording Secretary,

B. Howard Rand.

Librarian,

J. Aitken Meigs.

Treasurer,

George W. Carpenter.

Curators,

Jos. Leidy, W. S. Vaux,
Samuel Ashmead. John Cassin,

Auditors,

Jos. Jeanes, Saml. Ashmead,
W. S. Vaux.

Publication Committee,

W. S. Vaux, Robert Bridges,
Jos. Leidy, Isaac Lea,
W. S. W. Ruschenberger,